NRG Energy, Inc
P.O. Box 1001
1866 River Road
Middletown, CT 06457

February 6, 2009

Philip Giudice, Commissioner
Department of Energy Resources
Commonwealth of Massachusetts
100 Cambridge Street
Boston, Massachusetts 02114

Dear Commissioner Giudice:

Thank you for the opportunity to comment on the emergency regulations related to implementation of the Class I and Class II Renewable Portfolio Standards and the Alternative Energy Portfolio Standard.

As you know, NRG owns and operates the Somerset Station, which generates electricity for the equivalent of roughly 120,000 households in Massachusetts. For over three years now we have been working with the state DEP to bring a new cutting-edge technology to commercial operation for electricity generation for the very first time in the United States at our Somerset Massachusetts plant.

The DEP has approved and reaffirmed three times (most recently in November 2008) the use of this plasma gasification technology and the conversion of our Boiler #8 to use the resultant synthesis gas (or syngas) as a new more environmentally beneficial fuel source. By using this syngas in place of the current fuel, we will reduce NOx emissions by 59%, SO2 emissions by 89%, Hg (mercury) emissions by 90%, and CO2 from non-renewable fuels by 6.1%.

We can further reduce our carbon footprint by using clean biomass in the gasification process. The biomass we propose to use would be in the form of logging residue, urban tree trimmings, stumps, wood pallets, biodiesel from soy or palm oil and non-recyclable paper cubes.

All of this investment on NRG's part will further the science and use of new greener technologies, promote advanced renewable power generation, result in reductions in carbon footprinting for electricity generation and provide significant reductions in air emissions.

These outcomes are at the very heart of the purposes of the RPS and APS programs.

We applaud the efforts of the Massachusetts Legislature and the Department of Energy Resources (DOER) to enhance environmental protection by expanding the universe of renewable energy sources and by encouraging alternate technologies. NRG is supportive of DOER's proposed regulations and encourages their adoption with five suggested changes as laid out below. These technical changes are all designed to make sure plasma gasification of clean biomass into syngas for use in electricity generation is properly allowed for certification under the RPS Programs and the APS Program.

1. **Include "synthesis gas derived from gasification" as an eligible fuel in the following definitions:**

   225 CMR 14.02 Definitions:
   "Eligible Biomass Fuel"
   "Eligible RPS Class I Renewable Fuel"

   225 CMR 15.02 Definitions
   "Eligible Biomass Fuel"
   "Eligible RPS Class II Renewable Fuel"

   As you are aware, biomass-derived synthesis gas, or syngas, is the result of the gasification of organic matter such as agricultural waste, forest residue or other biomass feedstocks. Syngas can be combusted directly to produce heat or power, and it can be further converted to other products such as synthetic natural gas and liquid biofuels including synthetic diesel. This technology is becoming increasingly more popular in North America and throughout the world.

   Technology is moving rapidly. It is likely that given the direction from the Patrick and Obama Administrations, there will be continuing incentives to develop new green technologies. Including biomass derived syngas as an eligible fuel ensures that DOER's regulations remain dynamic, allowing for and encouraging the development of new emerging technologies that will increase our access to and use of renewable fuels.

2. **Gasification of non-fossil fuels should be included as part of the RPS Class I and RPS Class II programs**

   As stated above, gasification technology is not a technology limited only to the conversion of fossil fuels. There was a great deal of debate and discussion over the creation of the Alternative Portfolio Standard in the Green Communities Act, especially as it related to the inclusion of coal gasification. The House wanted it included in an unfettered way and the Senate wanted it limited to being included only with a requirement to capture and sequester the coals CO2 emissions. Ultimately, the decision was made to include coal gasification with the capture and sequestration of carbon dioxide.

It is our belief that when the Legislature included that alternative energy generating source in the APS, it intended to address the concerns specifically raised by coal while at the same time recognizing that future technologies might be developed which could ensure carbon dioxide sequestration. We recognize and acknowledge the Legislature's intent in this section. However, we do not believe that it was the Legislature's intention to ignore gasification technology of other renewable fuels altogether if the gasification process does not involve coal or even any other fossil fuels.

Biomass-derived synthesis gas is a product of gasification. However, unlike coal gasification, biomass-derived synthesis gas generation is scientifically assumed to yield no net emissions of CO2. A carbon sequestration requirement tied to clean synthesis gas makes no logical or practical sense.

Therefore, the Legislature's inclusion of gasification only with carbon dioxide sequestration should be interpreted as to apply only to carbon-based products (fossil fuels) which emit CO2. The gasification of non-fossil fuels which do not contribute to climate change should not be stigmatized and should be allowed within the RPS program with no such carbon sequestration requirement.

Given the clear legislative intent to broaden the available sources for renewable energy by the creation of the RPS Class II and the APS and through its clear inclusion of biomass as an appropriate fuel source, it would be inconsistent to exclude from the regulations a viable and safe technology – in this case, biomass gasification – from the array of incentives that the legislature has provided.

To ensure maximum flexibility as well as to ensure that the regulations being put forth by DOER do not quickly become stagnant, syngas derived from gasification should be included in the definition of "eligible biomass" as stated above. To further recognize that gasification is an accepted technology for creating biomass derived fuel, we request that the following definition of "gasification" be added to 225 CMR 14.02 and 225 CMR 15.02:

"Gasification" -- the high temperature thermal conversion of organic material into elemental synthesis gas that is cleaned of impurities and used as a low emissions gaseous fuel.

3. **The definition of "gasification" should be changed in 225 CMR 16.02**

DOER's emergency regulations at 225 CMR 16.02 define "gasification" as "a process in which a fuel, excluding petroleum-derived fuel, is converted to a gas of sufficient quality that its capable of use in a combined cycle natural gas Generation Unit."

We respectfully submit that DOER instead use the following definition of "gasification" in the APS program:

"Gasification" -- the high temperature thermal conversion of organic material into elemental synthesis gas that is cleaned of impurities and used as a low emissions gaseous fuel.

This is the same definition cited above and should be used for consistency sake.

The use of clean synthesis gas derived from gasification is equally environmentally friendly when used with other generation technologies including the use of boilers and reciprocating engines. We should not be so narrow as to limit this to one particular generation technology. To do so ignores appropriate available generation technologies that will help DOER meet its renewable energy goals. Plasma gasification at our Somerset Plant is supported by the DEP, will create significant environmental benefits, is literally a national model for greener power generation technology in the United States and fully serves all the policy goals of the RPS and APS Programs. The change in definition will make that clear.

4. **Gasification of certain C&D material should be accomodated**

Although at this time we are not asking for specific changes to the current regulations, we would ask DOER, as it moves forward with policy discussions, to examine the issue of gasification of C&D material as eligible for RPS certification and to make sure that the regulations can accommodate that in the future.

We understand that there were significant stakeholder concerns raised during the legislative debate around the incineration of C&D wood. The discussions included the issue of the recyclability of wood waste and the potential toxic emissions from C&D wood such as lead and heavy metals. However, these concerns of recyclability do not apply to clean biomass such as paper cubes, and the incineration moratorium issues do not apply to the gasification process. Therefore the gasification of C&D material should be eligible for RPS certification.

Different venues are addressing the issue of C&D materials. Section 87 of the Green Communities Act created a Special Commission to study the burning of C&D waste at it relates to the RPS. Its report is due on July 1, 2009. The Department of Environmental Protection (DEP) is in the process of re-writing its Solid Waste Master Plan, which it hopes to have completed by the end of the calendar year. One discussion group has been asked to focus on technologies and options for residual waste. That group has been asked to look at gasification as an option.

Although we would hope the DOER regulations would accommodate gasification of C&D material as a renewable source of electricity under the RPS Programs, we understand if the DOER wishes to defer this issue until after the Special

Commission and DEP act. We would simply ask the DOER to ensure their regulations do not preclude or prejudge these issues.

5. **Waste-to-Energy Provisions of the Regulations should be addressed quickly**

As DOER formulates the waste-to-energy sections, we ask that you include gasification of municipal solid waste within the WTE provisions. We also ask that in shaping these regulations, DOER, consistent with all other RPS provisions dating back to the original program in 1999, include all MSW WTE facilities in the New England region. Massachusetts' electricity is reliant on a regional grid and our power is generated at sources from throughout the entire New England region (and in some instances from contiguous regions and even countries). DOER should ensure that the same regional focus is employed when looking at WTE facilities under the RPS and APS programs.

Thank you for the opportunity to comment on the RPS and APS regulations. I would be happy to provide you with any additional information you might like.

Sincerely,

Fredrick Wass

Fredrick Wass
Asset Manager